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EMPLOYMENT OPPORTUNITIES AND COMPETENCY NEEDS IN NONFARM AGRICULTURAL OCCUPATIONS IN MISSISSIPPI.

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DESCRIPTORS- *OCCUPATIONAL SURVEYS, OCCUPATIONAL INFORMATION, *OFF FARM AGRICULTURAL OCCUPATIONS, *EMPLOYMENT OPPORTUNITIES, EMPLOYMENT TRENDS, VOCATIONAL AGRICULTURE, *OCCUPATIONAL CLUSTERS, JOB SKILLS, AGRICULTURE, EMPLOYMENT STATISTICS, MISSISSIPPI,

KEY PERSONS IN 297 NONFARM AGRICULTURAL BUSINESSES, AGENCIES, OR SERVICES, LOCATED IN 21 REPRESENTATIVE COUNTIES, WERE INTERVIEWED TO IDENTIFY PRESENT AND EMERGING NONFARM AGRICULTURAL OCCUPATIONS, TO DETERMINE THE COMPETENCIES NEEDED IN THESE OCCUPATIONS, TO DETERMINE OTHER CHARACTERISTICS OF THE OCCUPATIONS, AND TO ARRANGE THE OCCUPATIONS AND JOB TITLES INTO CATEGORIES OF CLUSTERS HAVING COMMON VOCATIONAL AND TECHNICAL EDUCATION NEEDS. SOME FINDINGS WERE -- (1) THE LARGEST NUMBERS OF EMPLOYEES WERE FOUND IN THE CLERICAL PHASES OF THE BUSINESSES, (2) A 10- TO 15-PERCENT INCREASE IN THE NUMBER OF AGRICULTURALLY TRAINED EMPLOYEES NEEDED BY 1971 WAS INDICATED, (3) THE GREATEST INCREASE IN NUMBER OF EMPLOYEES WITH AGRICULTURAL TRAINING IS EXPECTED IN AGRICULTURAL MACHINERY AND SUPPLY BUSINESSES, (4) APPROXIMATELY 87 PERCENT OF THE WORKERS IN NONFARM AGRICULTURAL BUSINESSES NEEDED SOME AGRICULTURAL COMPETENCIES TO SUCCESSFULLY PERFORM THEIR WORK, AND 93 PERCENT NEEDED SUPPORTING COMPETENCIES, AND (5) SALARIES AND WAGES IN SOME SERVICE TYPES OF EMPLOYMENT IN NONFARM AGRICULTURAL FIRMS WERE COMPARATIVELY LOW. IMPLICATIONS INCLUDED -- (1) A SYSTEM SHOULD BE ESTABLISHED FOR DETECTING, DESCRIBING, AND DISSEMINATING INFORMATION ABOUT NONFARM AGRICULTURAL OCCUPATIONS, (2) A COMPLETE AND DETAILED JOB ANALYSIS SHOULD BE MADE OF JOB TITLES USED IN CERTAIN AREAS OF THIS STUDY, AND (3) ANY EFFORT IN DESIGNING TRAINING PROGRAMS SHOULD INCLUDE SOME CONSIDERATION FOR PILOT STUDIES TO PERFECT TECHNIQUES AND MATERIALS. A SELECTED LIST OF REFERENCES IS INCLUDED. APPENDIXES CONTAIN NINE PAGES OF DATA. (WB)

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MISSISSIPPI STATE UNIVERSITY

SOCIAL SCIENCE RESEARCH CENTER

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EMPLOYMENT OPPORTUNITIES AND COMPETENCY NEEDS IN NONFARM AGRICULTURAL OCCUPATIONS IN MISSISSIPPI

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PREFACE

The Social Science Research Center (SSRC) at Mississippi State University supports various projects in its program of research in OCCUPATIONAL EDUCATION AND MANPOWER DEVELOPMENT. Each of these projects is focused upon the derivation of information that will be useful in the development of human resources. Information derived thus far in this research program is included in the following publications:

1. Influential Factors Concerning Human Resources in Mississippi, by James E. Wall. Preliminary Report 11, Education Series 1.

2. Research in Home Economics Gainful Employment: Five Pilot Projects in Mississippi--1965-66, by Mildred R. Witt and James E. Wall. Preliminary Report 15, Education Series 2.

3. Employment Opportunities and Compentency Needs in Nonfarm Agricultural Occupations in Mississippi, by James E. Wall, Obed L. Snowden, and A.G. Shepherd, Jr. Preliminary Report 16, Education Series 3.

The material contained in this report represents the cooperative efforts of many people in industry, business, and vocational education in Mississippi. The generous contributions of time and knowledge on the parts of owners, managers, and others who were interviewed during the course of the study are most certainly appreciated.

This report summarizes the findings of 297 interviews with owners and managers of various types of firms that serve farmers' needs or process and distribute their products. It would be wise for the reader to recognize that the information presented herein has inherent limitations. It offers no "cook-book" recipes nor iron-clad formulas for dealing with vocational agriculture curriculum revision, or for guidance of students.

Although this report is limited primarily to vocational education in agriculture, perhaps the reader can use it to gain insights and understandings which transcend other areas of vocational-technical or occupational education such as trades and industrial, distributive, home economics, office and business, health occupations, and vocational guidance. Close scrutiny might, perhaps, reveal some direction in developing approaches to action in these areas.

J.E.W.
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EMPLOYMENT OPPORTUNITIES AND COMPETENCY NEEDS IN NONFARM AGRICULTURAL OCCUPATIONS IN MISSISSIPPI

1. INTRODUCTION

A. Nonfarm Agricultural Occupations

Farmers are demanding more and more skilled assistance in the conduct of their highly complex production businesses. They spend most of their time on the farm and desire to have seeds, feeds, fertilizers or soil conditioners and petroleum delivered to them. Scientific farming has increased the use of these items, and farmers need more and more help in selecting and operating complex systems of equipment to handle such items. Simultaneously, consumers are demanding the types of products which require processing and distribution services that must be performed off the farm. Consequently, the state is experiencing the growth and development of a vast network of industries to perform these services for the farmers. The firms which perform these services are generally designated as nonfarm agricultural businesses. The persons employed in these businesses are said to be working in nonfarm agricultural occupations, and the need for them is growing at a phenomenal rate in certain areas.

B. Need for the Study

Studies in other states (see Selected References at the end of this report) have shown that many of the employees in these industries, businesses, and service agencies that support production agriculture need different kinds of competencies in agriculture. The demand for such workers is based upon the type of farming in the state or region, the number of workers already employed and the growth rate of these nonfarm businesses. The competencies they need closely follow the technological advances in agriculture and the adoption of innovative techniques in the agriculture of the region. Modern agriculture is tremendously influenced by scientific research. The processing and distribution of products are subject to consumer preference and likewise result in new or changed knowledge and skill requirements of specific workers.

Recognition of this urgent need prompted the Division of Vocational and Technical Education of the Mississippi State Department of Education and Mississippi State University to undertake a study which would identify the employment opportunities

in these nonfarm agricultural businesses and which would also determine the competencies needed by employees in these occupations.

The following basic objectives were established for this study:

1. To identify present and emerging nonfarm agricultural occupations in Mississippi and to ascertain the present number of employees and future employment opportunities in each such occupation

2. To determine competencies needed for entry and advancement in each of these occupations

3. To determine other characteristics of these occupations such as salary scale, age limitations, labor law and union restrictions, required education and work experience, licensing and certification

4. To arrange the occupations and job titles into categories of clusters for which there may be common vocational and technical education needs

C. Technological Change

A consensus among most educators seems to be that social reality should be translated into the educational system. Change is a social reality which is inevitable. Change, especially extensive and rapid change, creates many curriculum problems in the educational system. Scientific and technological changes and advancements have already changed the U.S. culture from a simple agrarian to a complex industrial society. This consensus is based on many trends, an important one being the highly systematic internal exodus of people from farms, through factories, and into offices, almost all of which have been created by technological advancement.[1]

Such change is continuing at an ever-increasing rate. As change continues and gathers increased momentum, the educational system's responsibility for vocational education increases commensurately. It seems that another growing consensus among educators and their supporters is that our public school system has always had, and apparently will continue to have, a basic obligation to prepare young people for work and to help adults advance in their chosen careers.

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1. See Robert L. Heilbroner, "Automation in the Perspective of Long-Term Technological Change," Seminar on Manpower Policy and Program (U.S. Department of Labor, Manpower Administration, December, 1966).

D. Change in Mississippi's Agriculture

Changes in agriculture have been occurring at extensive and rapid rates. As shown in Table 1, the following changes occurred in agriculture in Mississippi between 1959 and 1964.[2] The proportion of land in farms and the total number of farms declined, while the average size of farm increased. The average value of a farm almost doubled, due partly to increase in average size, but also due to general increase in land values. The number of farms with less than 499 acres decreased, while the number of those with 500 or more acres increased. The number of cash-grain, vegetable, fruit and nut, and poultry farms increased; while number of cotton, other field crop, dairy, other livestock, general, and miscellaneous farms decreased. The number of commercial farms having sales of $20,000 or more increased; those with $10,000 or less in sales decreased. This finding tends to support the claim that the "family farm" is gradually disappearing from the agricultural scene.

The value of farm products sold during this five-year period increased by 28.2 percent. The value of field crops, vegetables, fruits and nuts, poultry and poultry products, and dairy products increased; whereas the value of other livestock (beef cattle, hogs, sheep, etc.) and their products decreased.

The number of workers in the United States required to produce the nation's food and fiber has been decreasing. The same trend was relatively true in Mississippi between 1959 and 1964 as shown in Table 2. There were decreases in full owners of farms, both white and nonwhite. White part-owners of farms increased while nonwhite part-owners decreased and managers and tenants of both types decreased. The average age of farmers in the state increased by 1.6 years during the five-year period, but those farmers over 65 years of age decreased in number. Fewer operators in 1964 than in 1959 resided on the farms which they operated. Likewise, fewer operators at the end of the five-year period than at the beginning were working some of the time off-the-farm. This trend seems to indicate that production farming is increasingly requiring the full-time attention of the operator. Growth rates in size and volume of farm business also seem to cause operators to focus more attention on the farm and less on part-time work.

In addition to the above trend information, there were substantial increases in the use of commercial fertilizers, fertilizing materials, lime, sprays, dusts, etc. Likewise, the marked increases in vehicles of all types and communication facilities on Mississippi's farms tend to substantiate the trend toward greater mechanization of

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2. U.S. Census of Agriculture: 1959 & 1964. Preliminary Report for Mississippi, Tables 1-5, Revised August, 1966. (U.S. Department of Commerce, Bureau of the Census.)

Table 1. Changes in agriculture in Mississippi between 1959 and 1964.

Subject	1964	1959	Percent change
Approximate acres of land in Miss.	30,222,720	30,222,720	0
Proportion of land in farms	58.8%	61.6%	-2.8
Acres in farms	17,751,607	18,630,263	-4.7
Average size of farm (acres)	162.6	134.9	+20.5
Average value of farm: land & buildings	$24,801	$12,727	+94.9
Average value per acre	$153	$107	+43.0
Value of farm products sold in Miss.	$724,861,005	$565,500,933	+28.2
Average per farm	$6,642	$4,095	+62.2
Total number of farms	109,141	138,142	-21.6
Size			
Farms of less than 499 acres	102,626	131,962	-22.2
Farms of more than 500 acres	6,515	6,180	+5.4
Type			
Field-crop farms	38,835	48,764	-20.4
Cash-grain	2,968	1,677	+77.0
Cotton	35,573	46,587	-23.6
Other	294	500	-41.2
Vegetable farms	302	255	+18.4
Fruit & nut	376	276	+36.2
Poultry	2,861	2,672	+7.1
Dairy	4,061	5,495	-26.1
Livestock (beef, hogs, etc.)	9,254	11,843	-21.9
General & Miscellaneous	53,452	68,793	-22.3
Economic class			
Class I and II farms (Sales of $20,000 or more)	6,741	4,453	+51.4
Class III farms (Sales of $10,000 to $19,999)	4,486	4,486	0
Class IV, V, VI farms (Sales of $50 to $9,999)	50,536	55,371	-8.7
Part-time, part-retirement, other types (Sales of $50 to $2,499)	47,378	64,788	-26.9

Source: U.S. Department of Commerce, Bureau of the Census.

Table 2. Changes in farm operator status in Mississippi between 1959 and 1964.

Status	1964	1959	Percent change
By tenure and color:			
Full owners	64,557	74,547	-13.4
White	50,123	56,808	-11.8
Nonwhite	14,434	17,739	-18.6
Part owners	18,542	18,191	+ 1.9
White	13,855	13,415	+ 3.3
Nonwhite	4,687	4,776	- 1.9
Managers	408	753	-45.8
Tenants	25,634	44,651	-42.6
White	7,054	11,797	-40.2
Nonwhite	18,580	32,854	-43.4
Proportion of tenancy	23.5	32.3	- 8.8
By age:			
Average age in years	52.8	51.2	-----
65 years old and over	21,901	24,816	-11.7
By residence:			
Residing on farm operated	96,465	120,297	-19.8
Not residing on farm operated	8,142	6,921	+17.6
By off-farm work:			
Working off their farm	52,506	64,487	-18.6
100 days or more	37,103	41,372	-10.3

Source: U.S. Department of Commerce, Bureau of the Census.

production agriculture.

The decrease in the number of persons engaged in production agriculture can therefore be attributed to: (1) increase in mechanization, (2) consolidation of smaller units into larger ones, (3) increase in part-ownership of farms, (4) decline in tenancy, and (5) increased requirements for managerial ability in production agriculture.

Coupled with the decrease in the number of persons engaged in production agriculture has been a corresponding increase in the number of persons employed in nonfarm agriculture. Production agriculture as an industry has steadily increased in dollar-wise volume of business in both the volume produced and in that consumed. The use of credit in farming has steadily increased. These increases in the financial and volume aspects of production agriculture have created a need for more people to service the industry. Those businesses and industries which perform services for farmers, or which market or process and distribute the farmers' products, have been growing in size and in number. Similarly, the number of workers required in these businesses has been growing. Employment in nonfarm occupations will continue to increase over the next decade despite declines in employment on farms.

II. PROCEDURES

A. Persons Interviewed

The data presented in this report were obtained by use of pretested schedules taken through personal interviews with owners, personnel managers or other key persons in nonfarm agricultural businesses, firms, organizations, agencies, or services. Those persons who were interviewed were qualified by virtue of their positions to provide the desired information about the occupations, job titles, and employees.

B. Counties in the Study

Twenty-one of the 82 counties in Mississippi were used in this study. The 82 counties of the state were listed in descending order according to the number of farms in each; "high," "medium," "low," and "least" categories were designated with 21 counties in the high category, 20 in the medium category, 21 in the low category, and 20 in the least category. Random selection was then made of six counties in the high group, and five counties each in the medium, low and least categories, for a total of 21 counties.

All of the known businesses, firms, and organizations that were agriculturally related in each of these counties were listed. Exhaustive checks were made to assure a complete census of such firms. Sources such as agricultural and educational officials, other government officials, directories of manufacturers and business organizations, telephone directories, and local chambers of commerce were used to assure such a census. From this listing of firms a percentage of each was selected to be interviewed. The selection of the firms was made upon the bases of (1) the number found in the county and, (2) the variation found in the activities performed by them.

C. Schedules

Two interview forms were used in the study. They were approved by an advisory committee and were pretested on a limited number of firms before the actual interviews took place. Form No. 1 covered a general overview of the firm, its functions, years in operation, and relationships to agriculture. Also on Form No. 1 employees were listed and divided into the various job titles with the number of employees who needed agricultural competencies in each job title that was recorded on the form.

Form No. 11 was used to get specific information on each job title that was found in the firm. The person interviewed was asked to rate the importance of the various competencies needed to enter and to advance in that particular job title. The competencies were divided into groups such as (1) plant science, (2) animal science, (3) agricultural business management

and marketing, (4) agricultural mechanics, (5) other agricultural competencies, and (6) supporting competencies.

D. Rationale for Use of Firms

The types of nonfarm agricultural firms interviewed in this study were selected because of their importance to the economy of Mississippi. It is somewhat likely that the population from which the sample was drawn for the study did not include all of the firms in the state which employ people who need agricultural competencies. However, exhaustive efforts were made to obtain a complete census of the firms in each county used in the study. Therefore, it is highly probable that the sample interviewed is representative of all the potential firms which employ agriculturally trained people.

A number of forestry firms were interviewed in this study; however, it is felt that a more thorough examination of the forestry businesses in the state would yield somewhat more meaningful data. Many of the smaller forestry businesses offered very limited employment opportunities for people with agricultural training.

The size of the sample of firms varied in each county, depending upon the number of each type in existence and the variety of operations performed by each. Cooperation on the part of those persons and firms interviewed was excellent. Their cooperation in this study was solicited by the Director of the Division of Vocational and Technical Education in the State Department of Education and the Vice President of Agriculture and Forestry of Mississippi State University. Interviews were conducted by hired, trained interviewers, and the utmost cooperation was achieved in every instance.

The data in this report were collected from 297 different nonfarm agricultural firms in Mississippi. These firms represent approximately 25 percent of the total of those types of businesses now in operation in the state. The data were analyzed in the Social Science Research Center and the computing center of Mississippi State University.

III. FINDINGS

A. Characteristics of the Firms Interviewed

Table 3 shows that of the 297 firms interviewed, the majority was more than 90 percent agriculturally oriented. Actually, only one firm indicated that less than 10 percent of its business was agriculturally oriented. Those firms reporting the lesser percentages of their businesses being agriculturally oriented were located in or near urbanized areas of the state.

Table 3. Extent of agricultural orientation of firms interviewed

	Percentage of business agriculturally oriented				
	90--100	40--89	0--39	No Information	Total
No. of businesses	240	25	23	9	297
Percent	80.9	8.4	7.7	3.0	100

The function performed most by the firms interviewed in this study was that of retail sales. Information in Table 4 reveals that 206 of the 297 firms indicated retail sales as a main function of their operations. Many firms performed more than one function, some as many as six. Only 86 firms reported that they performed a single function; 155 reported two functions; and 56 reported three or more of the functions shown in Table 4.

Table 4. Functions performed by the firms interviewed

Function	Firms performing the function Number (N=297)*	Percent
Sales (retailing)	206	69.4
Services	157	52.9
Processing	77	25.9
Wholesaling	48	16.2
Manufacturing	34	11.4
Purchasing	29	9.8
Transportation	4	1.3
Finance, insurance, etc.	3	1.0
Government	2	0.7

* Many firms performed more than one function; therefore, the Number column total exceeds the N=297 and the Percent column exceeds 100%.

The firms used in this study had been established in their respective locations for varying periods of time. Table 5 shows that the preponderance of the firms had been in existence for periods up to 30 years. The median age of firms was 17.5 years. This information substantiates the stability of the firms used in the study, which likewise should lend much credibility to the responses received from them.

Table 5. Length of time businesses had existed in the location where interviewed

	Years in existence				
	1--14	15--29	30--44	45 or over	Total
No. of businesses	121	104	44	28	297
Percent	40.7	35.1	14.8	9.4	100

The 297 firms in this study indicated that they employed a conglomerate of more than 5,000 people. Since approximately one-fourth of the 82 counties were included in the study, it seems tenable to state that the study is representative of nonfarm agricultural firms which employ more than 20,000 persons--approximately 3 to 4 percent of the employed persons in mid-April 1966--in the State of Mississippi. The information in Table 6 indicates the number of employees in the firms interviewed. These data reflect the size of firm. One firm manufacturing agricultural chemicals employed 975 people.

Table 6. Number and percent of employees in firms

	Number of employees									
	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500-1000	No information	Total
No. of firms	51	79	65	39	17	14	3	2	27	297
Percent	17.2	26.6	21.9	13.1	5.7	4.7	1.0	0.7	9.1	100

The persons interviewed in the 297 firms were asked to describe their procedures for hiring employees. One-hundred-ninety said they hired through personal contact, 21 used the state employment service, 18 used newspaper advertisements, 9 contacted high school officials, and 1 used college placement services. The remaining 58 used varying combinations of these procedures.

Persons interviewed were asked to indicate their opinion as to the most beneficial type of pre-employment education program that their prospective employees might need. One-hundred-sixty-one stated that a general high school education, which included basic principles of agriculture supplemented with supervised or directed work experience in production agriculture and agricultural mechanics would adequately prepare persons for employment in their firms; 65 felt that the above plus some technical training beyond the high school level would be necessary; 40 implied that a college degree would be preferable. The remainder of the firms indicated varying combinations of the above, and stipulated that additional special courses of different types would be desirable because of the various competency requirements of their employees.

Firms were asked whether they would be able to cooperate in providing supervised work experience for students and prospective employees. One-hundred-twenty said they were not in position to provide such directed work experience at the present time, but might be in the near future. The remaining 177 firms stated that they could employ students when school was not in session or during the school session on a part-time basis.

All but 29 of the firms indicated their willingness to help establish training programs to prepare individuals for specific occupations. They agreed to cooperate by helping school officials plan such training programs, by releasing some of their key employees to give specialized instruction to trainees, and by allowing trainees to come to their firms for special instruction by company personnel.

B. Classification Systems

1. Occupational Classification

Prior to the discussion of any aspect of nonfarm agricultural occupations, it becomes necessary to cope with classification problems. For this study, all agricultural occupations were grouped into the following occupational families, shown with examples of job or occupational titles:[3]

a. Farm Machinery Sales and Service Occupations

Blacksmith, welder, and general repairman
Custom farm machine operator
Farm machinery mechanic's helper

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3. Report of the Second Research Coordinating Conference on Agricultural Occupations. The Center for Research and Leadership Development in Vocational-Technical Education, (Ohio State University, Columbus, January, 1964).

Farm machinery mechanic
Farm machinery service center foreman
Farm tire service operator
Farm machinery parts helper or clerk
Farm machinery parts manager
Farm machinery salesman
Farm machinery fieldman

b. Farm Supplies and Equipment Occupations

Country store clerk
Farm hardware and equipment store employee
Feed mill employee
Farm cooperative service store employee
Farm equipment and supplies salesman
Truck driver for a feed mill or farmer cooperative
Truck driver for a rural gasoline and oil distributor

c. Livestock and Poultry Industries Occupations

Animal industry laboratory assistant or technician
Apiary inspector
Artificial inseminator (breeding technician)
Dairy herd supervisor
Dairy plant employee (creamery or milk plant)
Egg grader
Egg inspector
Livestock car caretaker
Livestock auction employee
Livestock buyer
Livestock disease control workers
Livestock truck driver
Milk sanitarian
Milk truck driver
Poultry and egg buyer
Slaughter house, locker plant, and poultry processing plant employee
Stockyard employee
Veterinarian's assistant

d. Crops, Forestry, and Soil Conservation Occupations

Cannery or processing plant employee
Fruit and vegetable produce buyer
Grain elevator employee
Irrigation ditch rider
Lumberman or sawmill employee
Soil conservation aide
State or national forest employee
Field crop, fruit, and vegetable inspection employee

e. Ornamental Horticulture Occupations

City state or national park employee
Florist
Garden center employee
Greenhouse employee
Grounds maintenance employee
Landscape gardener
Nursery employee
Tree pruner
Tree surgeon

f. Wildlife and Recreation Occupations

Game bird propagator
Game management employee
Golf course employee

g. Farm Service Occupations

Artificial inseminator
Auctioneer
Country butcher
Crop duster or applicator
Crop pollinator
Crop sprayer
Custom farm machine worker
Dairy herd supervisor
Farm building painter
Farm building renovator
Feed and hammer mill operator
Field supervisor (A.S.C.)
Fruit caretaker
Fruit sprayer
Lime spreader
Mobile blacksmith shop operator
Mobile repair shop operator
Sheep dipper
Sheep shearer

h. Agricultural Service Occupations

Farm auctioneer
A.S.C. field superintendent
A.S.C. office manager
A.S.C. checker
Farm placement representative
Farm advisory work, consultant
Field representative for agricultural marketing business
Agricultural advertising
Agricultural newspaper or magazine work
Farm appraiser
Farmer organization staff person

Agricultural economist
Agricultural engineer
Agricultural journalist
Agronomist
Agricultural college instructor
Entomologist
Extension work--county agent
Plant pathologist
Rural sociologist
Soil conservationist
Veterinarian
Vocational agriculture instructor

2. Level of Employment Classification

Another classification problem arose concerning level of employment. The following classification was developed by the Center for Research and Leadership Development in Vocational-Technical Education.[4] To this classification was added a tenth category, "Service," into which were placed all jobs involving unskilled duties.

a. Professional Occupations

This group includes occupations that predominantly require a high degree of mental activity by the worker and are concerned with theoretical or practical aspects of complex fields in human endeavor. Such occupations require for the proper performance of the work either extensive and comprehensive academic background or a combination of such education and experience.

b. Technical Occupations

These are occupations concerned with many levels of skills and a wide variety of training requirements. Included are occupations where one performs specific tasks which are functional parts of scientific activities requiring knowledge of fundamental theory and requiring highly developed skills.

c. Agricultural Service Occupations

These are occupations concerned with providing professional and semi-professional services largely protective in nature, in the public interest--inspection, regulative, quarantine, grading, and serving.

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4. Op. cit.

d. Managerial Occupations

Included here are occupations that are involved primarily with responsible policy-making, planning, supervising, coordinating, or guiding the work-activity of others, usually through intermediate supervisors.

e. Supervisory Occupations

These are occupations concerned with the supervision of personnel who are involved in the production of materials or who are providing services, and which are usually considered as semi-skilled and skilled.

f. Sales Occupations

Such occupations are concerned with the sale of commodities, investments, real estate, products, and services, and occupations that are very closely identified with sales transactions even though they do not involve actual participation in such transactions.

g. Clerical Occupations

These occupations are concerned with preparing, transcribing, transferring, systematizing, or preserving written communications and records in offices, shops, and other places of work where such functions are performed.

h. Skilled Occupations

This group includes craft and manual occupations which require predominantly a thorough and comprehensive knowledge of processes involved in the work, the exercise of a considerable amount of independent judgment, usually a high degree of manual dexterity, and in some instances, extensive responsibility for valuable products or equipment. Workers in these occupations usually become qualified by serving apprenticeships or completing extensive training periods.

i. Semi-Skilled Occupations

This group includes manual occupations that are characterized by one, or a combination of parts, of the following requirements: (1) the exercise of manipulative ability of a high order, but limited to a fairly well-defined work routine, (2) major reliance, not so much upon the worker's judgment or dexterity, but upon vigilance and alertness in situations in which lapse in performance would cause extensive damage to product or equipment; (3) and the exercise of independent judgment to meet variables in the work situation, which is not based on wide knowledge of a work field and which in nature and

extent is limited either (a) by application over a relatively narrow task situation, or (b) by having important decisions made by others.

j. Service Occupations

This group includes occupations which are characterized by simple, menial tasks in a single-operation setting. Very little judgment or dexterity is needed to perform these duties. Any minor variation in the single-operation setting must be reported to and handled by others.

C. Employees: Current Numbers and Projected Needs

Accurate estimates of the number of nonfarm workers in Mississippi are difficult to make because many different types of businesses and industries are involved. The most accurate sources are the Mississippi Employment Security Commission and the Mississippi Crop Reporting Board of the U.S. Department of Agriculture Statistical Service. In 1964 these sources estimated that there were 92,000 employees in Mississippi plants that manufacture and process agricultural products; and another 30,000 employees in all other nonfarm agricultural pursuits, such as jobs in professional agriculture, farm machinery sales and services, farm supply and equipment firms, etc. In 1965, these figures were 94,500 and 33,150 employees, respectively. On the other hand, the number engaged in production agriculture (farming or ranching) decreased by approximately 17,000 persons in that one year.

The information in Table 7 (see Appendix) reveals that 5,292 people were employed in the 297 firms used in this study. Those persons interviewed indicated they would need approximately 28 percent (an average of 5.6 percent per year) more persons at all levels of employment and in all occupational families in order to cope with the predicted growth demands of their firms by 1971. According to level of employment, the greatest increase in employee demands will be in sales, 41 percent; technical employment, 38 percent; skilled work, 33 percent; and semi-skilled work, 27 percent According to occupational family, demands will be greatest in farm machinery sales and services; livestock and poultry industries; crops, forestry and soil conservation; and farm supplies and equipment firms. The small number of current and expected increases of employees tends to distort the percentages for the other occupational families shown in the table.

The expected increase in need for employees in farm machinery sales and services is certainly in keeping with the revolutionary expansion currently taking place in the area of farm mechanization in Mississippi. Furthermore, the expected increases in sales and semi-skilled personnel in this occupational family seem to indicate that this expansion will probably continue indefinitely. The phenomenal rate of increase in soybean production in the state is only one factor which influences this trend.

The following are a few of the many factors which will affect the demand for personnel in the farm machinery sales and service family of occupations:

1. The number of tractor and/or implement dealerships in the state.

2. The number of salesmen, mechanics and other employees per dealership.

3. Average age and retirement data estimates concerning these employees.

4. Agricultural machinery industry growth rates and similar forecasts for the state.

Each of the above has its own set of influences which determine its status at any given time.

D. Competencies in Job Titles

Each person interviewed in this study was asked to indicate the degree of competency required to enter and to advance in each of the job titles found in his firm. He did so by marking on a three-point scale, "much," "some," or "none." Mean scores for each job title according to major competency category are shown in Table 8. Mean scores for each job title according to specific competency are shown in Tables 9 through 12.

Also shown in Table 8 are the current number, expected increase, and percent increase of employees for each job title. Relatively large increases are expected for general salesmen, 66 percent; welders, 56 percent; mechanics, 54 percent; route salesmen, 46 percent, servicemen, 42 percent; and skilled laborers, 40 percent.

Generally, the manager-supervisor-superintendent category of employees requires the greatest degree of competency in all areas as shown in Table 8. One outstanding finding seemed to be that all types of employees needed at least some degree of supporting competencies, which included such specific competencies as display and packaging, office management, communications, accounting, public relations, etc.

E. Peripheral Characteristics and Requirements of Job Titles

Each person interviewed was asked to indicate the characteristics and requirements for each of the job titles found in his firm. These characteristics included age limitations, average beginning and maximum monthly salaries, educational requirements, labor restrictions, degree of difficulty in finding employees for the job, preferences as to residential background, and work experience requirements. These data are shown in Tables 13, 14, and 15.

Age of employability for each job title is shown in Table 13 according to actual response distribution. Generally, entry age increases as training requirements and responsibility levels increase. Some interviewees indicated that desired age requirements would be relegated to a secondary position if the person being considered for a job showed an above average maturity level with regard to the acceptance of responsibility, integrity, mental and emotional stability, and initiative in his work habits. Certain questions arise at this point: How do teachers teach responsibility, integrity, stability, and initiative? Moreover, how do teachers measure the extent or degree to which they have helped students acquire such characteristics? And even if students do acquire such desirable characteristics in school, to what extent will they transfer these to an occupational environment, ad infinitum?

IV. SUMMARY AND IMPLICATIONS OF THE STUDY

A. An Overview

The report presents the findings obtained in 297 personal interviews with owners or managers of various types of businesses which serve the agricultural industry in Mississippi. These firms service farmers' needs for production, processing and distribution of farm commodities. Interviews were conducted in 21 out of 82 counties in Mississippi and in every major town of each of these counties. Most of the businesses in Mississippi are concentrated in the larger population areas; however, many of the firms included in the study were found in the more sparsely populated counties.

The following generalizations were drawn from the findings of this study. (1) Approximately 87 percent of the workers in nonfarm agricultural businesses needed some agricultural competencies in varying degrees in order to successfully perform their work in the firms interviewed, and approximately 93 percent needed supporting competencies. (2) The largest numbers of employees were found in the clerical phases of the businesses. (3) Persons interviewed in the nonfarm agricultural businesses predicted that they will need to cope with the demand for a 10 to 15 percent increase in the number of agriculturally trained employees by 1971. (4) The greatest increase in number of employees with agricultural training is expected to be in the areas of agricultural machinery and agricultural supply businesses. (5) Competencies in human relations and salesmanship are generally needed by all employees, but in varying degrees. (6) The type of business conducted by the firms that were interviewed determines the type of agricultural competencies needed by employees who work in that business. (7) Salaries and wages in some service types of employment in these nonfarm agricultural firms were comparatively low. (8) Approximately 40 percent of the persons interviewed indicated they would prefer employees with a farm or rural background, the remaining 60 percent had no preference as to background of their employees. (9) According to this study the greatest number of workers will be required in the following occupational titles in the next five years: agricultural machinery salesmen, agricultural machinery mechanics, agricultural machinery partsmen, agricultural machinery mechanics helper, agricultural supplies manager, agricultural supplies salesman, agricultural supplies mill worker, cotton ginner, greenhouse grower, nursery landscape gardener, applicator flagman, butcher, dairy processing man, and grain elevator manager.

B. Systematic Assessment of Nonfarm Agricultural Occupations

Aside from the specific data discovered in this study, there seems to have been generated a consensus that some system should be established for detecting, describing, and disseminating information concerning nonfarm agricultural occupations in Mississippi. The all-important questions of who should do this, and how they should do it need to be answered.

C. Detailed Job Analyses Needed

There are certain job titles found in this study which warrant more detailed study, among them are the "farm machinery" group of mechanics and salesmen, etc. Complete and detailed job analyses should be made. The phenomenal growth in the use of machinery in Mississippi agriculture alone warrants such studies.

D. Future of Nonfarm Agricultural Occupations

Generally, nonfarm agricultural employment in various occupations will continue to increase for some time; annual rates of increase will depend on the nature of each occupation. These increases, coupled with declines in farm employment, indicate the need to provide agricultural and farm-related occupational training for many differen kinds of persons in Mississippi. Some will have a farm background; many will have interests in nonfarm agricultural occupations. Such training should be designed to serve those who might otherwise not be able to participate in current kinds of training programs because of various reasons, such as lack of finances, distance too great from domicile to training center, accumulated debts, family obligations, etc. Those persons in Mississippi known as displaced farm workers are the ones who, perhaps, offer the greatest challenge in designing training programs for them. A training program for them must be based on knowledge about their background, aspirations, work orientations, abilities, and the like. Information of this nature for this particular group is not available in any great detail at the present time.

D. Training for Nonfarm Agricultural Occupations

Any effort in designing training programs should include some consideration for pilot studies to perfect techniques, materials, and the like. Such pilot studies should not be considered demonstrational in nature; they should be conducted in an atmosphere or environment that would not be open to the interloper or casual observer. A tenable point of departure, as inferred by this study, would be the implementation of a pilot study of a training program for agricultural machinery salesmen.

Most of the nonfarm agricultural occupations discussed in this report should be viewed as "service" in nature. In other words, they serve the needs of an increasingly sophisticated farmer, one who today farms more acres, has a higher rate of production, uses more machinery, applies more agricultural chemicals and fertilizers, is required to make more profound decisions, uses more credit, has a higher educational attainment, and will continue to require more off-farm services than the farmer of yesterday.

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VI. APPENDIX

Table 7. Current and expected five-year change in numbers of employees in selected nonfarm agricultural firms in 21 of 82 Mississippi counties (Current numbers -- C, Expected increase -- E, and Percent increase -- %)

Employment Level	OCCUPATIONAL FAMILY																							
	Farm mach. sales/ services			Farm supply & equip.			Livestock/ poultry industries			Crops, forestry soil consv.			Ornamental hort.			Wildlife & recreation			Farm services			Agricult[1] services			Totals		
	C	E	%	C	E	%	C	E	%	C	E	%	C	E	%	C	E	%	C	E	%	C	E	%	C	E	%
Professional	23	4	17	25	3	12	11	2	18	12	1	8	1	-	-	4	-	-	7	1	14	-	-	-	83	11	13
Technical	48	12	25	19	8	42	42	8	19	17	3	18	-	-	-	4	1	25	10	3	30	49	26	53	189	71	38
Managers	51	8	16	80	9	11	38	6	16	44	9	20	1	-	-	-	-	-	4	1	25	13	1	8	231	34	15
Supervisors	47	7	15	92	8	9	130	13	10	81	12	15	3	1	33	1	-	-	3	-	-	32	2	6	389	43	11
Sales	175	94	54	67	21	31	287	117	41	20	5	25	-	-	-	-	-	-	-	-	-	106	33	31	655	270	41
Clerical	56	12	21	62	11	18	105	17	16	106	27	25	3	2	67	-	-	-	2	1	50	14	1	7	348	71	20
Skilled	539	201	37	156	61	39	444	118	27	135	58	43	10	4	40	-	-	-	30	3	10	68	17	25	1382	462	33
Semi-skilled	85	56	66	189	41	22	569	154	27	327	87	27	15	4	27	-	-	-	3	-	-	74	-	-	1262	342	27
Service	24	8	33	90	16	18	345	89	26	286	51	18	1	-	-	7	7	100	-	-	-	-	-	-	753	171	23
Totals	1048	402	38	780	178	23	1971	534	27	1028	253	25	34	11	32	16	8	50	59	9	15	356	80	22	5292	1475	28

Table 8. Current and expected increase in employees and degree of competency needed in major competency categories to enter and advance in job titles (mean scores)[a]

Job titles (N=frequency in 297 firms)	No. of employees			Plant science		Animal science		Ag. bus. mgt. mkt.		Ag. mech.		Other ag. comp.	Supporting comp.
	Now	5-year increase	% increase	To ent.	To adv.	To ent.	To adv.	To ent.	To adv.	To ent.	To adv.	To ent.	To ent.
CLERICAL N=163	310	70	23	1.2	1.2	1.3	1.2	1.7	1.7	1.1	1.8	1.0	2.0
Bookkeeper--gen.N=66	99	20	20	1.2	1.2	1.2	1.2	1.8	1.8	1.0	1.7	1.0	2.2
Secs.&typists N=38	51	11	22	1.0	1.0	1.0	1.0	1.4	1.4	1.0	1.6	1.0	1.8
Cashier N= 8	10	2	20	1.2	1.2	1.3	1.3	1.6	1.6	1.0	1.0	1.0	1.8
Office workers--gen. N=31	118	31	26	1.3	1.3	1.2	1.2	1.8	1.8	1.1	1.8	1.1	2.0
Stock clerks N=20	32	6	19	1.3	1.3	1.3	1.3	1.5	1.5	1.5	2.4	1.0	2.0
CRAFTSMEN N=143	591	284	48	1.1	1.1	1.1	1.1	1.3	1.2	1.9	2.0	1.0	1.8
Mechanics N=69	336	181	54	1.1	1.1	1.1	1.1	1.2	1.2	2.0	2.1	1.0	1.7
Maintenance men N=11	39	16	41	1.0	1.0	1.2	1.2	1.0	1.0	2.7	2.7	1.3	1.6
Parts men N=24	63	22	35	1.1	1.1	1.0	1.0	1.4	1.4	1.3	1.3	1.0	2.1
Welders N=7	45	25	56	1.0	1.0	1.0	1.0	1.1	1.1	2.1	2.1	1.0	1.6
Pipe fitters N=3	26	9	35	1.0	1.0	1.0	1.0	1.1	1.1	2.0	2.0	1.0	1.6
Servicemen N=19	57	24	42	1.2	1.2	1.1	1.1	1.3	1.1	2.0	2.1	1.0	1.8
Butchers N=10	25	7	28	1.3	1.3	2.1	2.1	2.0	2.0	1.4	1.4	1.0	1.8
PROFESSIONAL & EXECUTIVE N=31	83	11	13	1.5	1.5	1.3	1.3	1.7	1.7	1.3	1.3	1.0	2.1
FOREMEN N=63	104	21	20	1.2	1.3	1.2	1.4	1.6	1.6	1.9	2.0	1.1	2.0
LABORERS N=177	1690	395	23	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.0	1.3
Skilled N=17	242	97	40	1.2	1.2	1.2	1.2	1.1	1.1	1.7	1.7	1.0	1.6
Unskilled N=73	624	123	20	1.1	1.1	1.2	1.2	1.1	1.1	1.2	1.2	1.0	1.2
Semi-skilled N=87	824	175	21	1.2	1.2	1.2	1.2	1.3	1.7	1.4	1.3	1.0	1.4
MGRS.,SUPV.,& SUPT. N=414	842	164	19	1.6	1.7	1.7	1.7	2.1	2.2	1.7	1.7	1.1	2.6
Production N=14	33	6	18	1.7	1.8	1.4	1.5	1.7	1.8	1.2	1.3	1.0	1.5
Maintenance N=7	16	5	31	1.0	1.0	1.2	1.2	1.6	1.6	2.1	2.2	1.1	2.1
Sales & rt.sales N=34	196	35	18	1.2	1.2	1.3	1.3	1.9	2.0	1.3	1.3	1.1	2.4
Plant, mill--gen. N=22	317	40	13	1.9	1.9	1.8	1.9	2.3	2.4	1.8	1.8	1.1	2.4
Office & credit N=26	32	11	34	1.2	1.2	1.3	1.3	2.2	2.2	1.2	1.2	1.0	2.4
Parts & hardware N=17	23	9	39	1.3	1.3	1.0	1.2	1.7	1.7	1.7	1.8	1.0	2.4
Purchasing agents N=12	25	6	24	1.8	1.8	1.8	1.8	1.7	1.9	1.4	1.4	1.3	2.3
Elevator & store N=8	28	11	39	1.3	1.3	1.4	1.4	1.7	1.7	1.7	1.7	1.0	2.0
Cotton gin N=4	4	-	-	1.1	1.1	1.0	1.0	2.3	2.2	2.3	2.5	1.0	2.2
Quality control N=3	3	-	-	2.3	2.7	1.7	1.7	2.1	2.2	1.9	1.9	1.0	2.2
Nursery N=4	4	2	50	2.5	2.8	1.0	1.0	1.9	2.1	1.6	1.7	1.0	2.0
Commercial farm N=9	48	11	23	2.1	2.1	2.4	2.4	2.1	2.2	2.0	2.0	1.0	2.1
Service N=11	16	4	25	1.4	1.4	1.4	1.4	1.9	1.9	1.9	1.9	1.0	2.2
Division N=2	25	3	12	3.0	3.0	3.0	3.0	3.0	3.0	2.2	2.1	1.0	2.7
Miscellaneous N=42	72	21	29	1.7	1.7	1.5	1.5	1.9	2.0	1.5	1.6	1.3	2.3
OPERATIVES N=173	1185	264	22	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.0	1.5
Poultry processors N=9	159	25	16	1.0	1.0	1.7	1.7	1.1	1.1	1.0	1.0	1.0	1.0
Food processors N=13	63	14	22	1.1	1.1	1.5	1.5	1.6	1.6	1.3	1.3	1.1	1.4
Factory worker assembly line N=12	411	52	13	1.2	1.2	1.5	1.5	1.3	1.3	1.4	1.4	1.0	1.4
Wood processor N=2	2	-	-	1.5	1.5	1.0	1.0	1.9	1.8	2.5	2.5	1.0	1.9
Machine operator N=20	77	30	39	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.4	1.0	1.4
Aerial applicator N=9	23	6	26	1.6	1.6	1.0	1.0	1.0	1.0	1.6	1.6	1.0	2.3
Operator--farm mach. N=4	80	38	48	1.0	1.0	1.0	1.0	1.0	1.0	1.4	1.5	1.0	1.3
Cotton gin operator N=23	54	6	11	1.3	1.3	1.2	1.2	1.2	1.2	1.4	1.5	1.0	1.4
Operator--heavy truck N=45	212	63	30	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.0	1.6
Servicemen N=17	52	14	27	1.2	1.2	1.7	1.7	1.6	1.6	1.4	1.4	1.1	1.7
Weighers, checkers, graders N=15	38	8	21	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.0	1.6
Ornamental hort. workers N=4	14	8	57	2.4	2.8	1.0	1.0	1.9	1.9	1.4	1.5	1.0	1.2
SALES PERSONNEL N=100	487	266	55	1.5	1.8	1.5	1.5	1.8	1.9	1.4	1.4	1.0	2.3
Gen. salesmen N=66	187	123	66	1.9	2.0	1.6	1.7	2.0	2.0	1.4	1.4	1.0	2.3
Route salesmen N=18	243	111	46	1.4	1.4	1.3	1.3	1.7	1.7	1.4	1.4	1.0	2.4
Sales clerks N=10	46	27	59	1.7	1.7	1.5	1.5	1.5	1.6	1.5	1.5	1.2	2.1
Distributors N=4	6	4	67	1.2	1.2	1.1	1.1	1.4	1.4	1.0	1.0	1.0	2.2
Farm N=2	5	1	20	1.5	1.5	1.0	1.0	1.5	1.5	1.4	1.4	1.0	2.0

[a]Mean scores based on: Much = 3; Some = 2; None = 1.

Table 9. Degree of competency needed in agricultural business management to enter and to advance in job titles. (mean scores)[a]

Job titles	Agricultural business management & marketing									
	Budget, & records anal.		Farm finance		Labor market		Marketing practice		Agricultural policy	
	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.
CLERICAL	1.9	1.9	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.5
Bookkeeper--Gen.	2.1	2.1	1.9	1.9	1.7	1.7	1.7	1.7	1.6	1.6
Secs. & typists	1.6	1.6	1.4	1.4	1.2	1.2	1.3	1.3	1.3	1.3
Cashier	1.9	1.9	1.5	1.5	1.6	1.6	1.4	1.4	1.6	1.6
Office workers--Gen.	2.0	2.1	2.0	2.0	1.8	1.8	1.7	1.7	1.7	1.7
Stock clerks	1.6	1.7	1.3	1.3	1.7	1.7	1.5	1.6	1.3	1.3
CRAFTSMEN	1.3	1.3	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2
Mechanics	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1
Maintenance men	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Parts men	1.7	1.7	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
Welders	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Pipe fitters	1.0	1.0	1.3	1.3	1.0	1.0	1.0	1.0	1.0	1.0
Servicemen	1.2	1.2	1.0	1.0	1.3	1.3	1.1	1.1	1.0	1.0
Butcher	2.0	2.0	2.0	2.0	1.9	1.9	2.0	1.7	1.9	1.9
PROFESSIONAL & EXECUTIVE	1.9	1.9	1.6	1.6	1.7	1.7	1.8	1.8	1.5	1.5
FOREMEN	1.6	1.6	1.5	1.5	2.0	2.0	1.5	1.5	1.4	1.4
LABORERS	1.2	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1
Skilled	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Unskilled	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Semi-skilled	1.3	1.3	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2
MGRS., SUPV., & SUPT.	2.2	2.3	2.0	2.1	2.3	2.4	2.1	2.2	1.9	2.0
Production	1.7	1.8	1.4	1.4	2.0	2.2	1.8	1.9	1.7	1.8
Maintenance	2.0	2.0	1.4	1.4	2.3	2.3	1.1	1.1	1.1	1.1
Sales & rt. sales	1.9	2.0	1.8	1.8	1.9	2.0	2.1	2.2	1.7	1.8
Plant, mill-- Gen.	2.3	2.4	2.2	2.3	2.4	2.1	2.3	2.2	2.1	2.0
Office & credit	2.4	2.4	2.2	2.3	2.1	2.1	2.1	2.2	2.0	2.0
Parts & hardware	1.7	1.7	1.5	1.5	1.8	1.8	1.8	1.8	1.5	1.5
Purchasing agents	2.2	2.2	1.9	1.9	1.8	1.8	2.0	2.0	1.7	1.7
Elevator & store	2.0	2.0	1.8	1.8	2.5	2.5	2.1	2.1	1.5	1.5
Cotton gin	2.8	2.5	2.0	2.0	2.5	2.8	2.2	2.0	2.2	1.5
Quality control	2.3	2.3	2.0	2.0	2.3	2.7	2.0	2.0	2.0	2.0
Nursery	2.0	2.2	1.5	1.5	2.2	1.8	2.2	1.8	1.5	1.5
Commercial farm	2.1	2.2	1.9	1.9	2.2	2.3	2.2	2.3	2.0	2.0
Service	2.3	2.3	1.8	1.8	1.9	1.9	1.6	1.6	1.7	1.8
Division	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Miscellaneous	2.1	2.2	1.8	1.9	2.1	2.2	1.9	2.0	1.6	1.6
OPERATIVES	1.3	1.3	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.2
Poultry processors	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Food processors	1.6	1.6	1.5	1.5	1.8	1.8	1.5	1.5	1.5	1.5
Factory worker assembly line	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
Wood processor	2.5	2.5	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5
Machine operator	1.2	1.2	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.1
Aerial applicator	1.0	1.0	1.0	1.0	1.2	1.2	1.0	1.0	1.0	1.0
Operator--farm mach.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cotton gin operator	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2
Operator--heavy truck	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Servicemen	1.7	1.7	1.5	1.5	1.7	1.7	1.7	1.7	1.5	1.5
Weighers, checkers, graders	1.6	1.6	1.1	1.1	1.3	1.3	1.1	1.1	1.1	1.1
Ornamental hort. workers	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.5	2.0
SALES PERSONNEL	1.9	1.9	1.8	1.9	1.7	1.7	2.0	2.7	1.8	1.8
Gen. salesmen	2.0	2.1	2.0	2.0	1.8	1.8	2.1	2.2	1.9	2.0
Route salesmen	1.7	1.7	1.5	1.5	1.6	1.6	2.1	2.2	1.5	1.5
Sales clerks	1.9	1.9	1.4	1.4	1.5	1.5	1.5	1.9	1.4	1.4
Distributors	1.2	1.2	2.0	2.0	1.0	1.0	2.0	2.0	1.0	1.0
Farm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

[a]Mean scores based on : Much = 3; Some = 2; None = 1.

Table 10. Degree of competency needed in agricultural mechanics to enter and to advance in job title (mean scores)[a]

Job titles	Agricultural mechanics																	
	Power & machinery		Concrete & masonry		Metal work		Welding		Electricity		Plumbing		Farm buildings		Tool fitting	
	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.	Ent.	Adv.
CLERICAL	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1
Bookkeeper--gen.	1.1	1.1	1.0	1.0	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Secs. & typists	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cashier	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Office workers--gen.	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.1	1.1
Stock clerks	1.7	1.6	1.2	1.2	1.4	1.4	1.3	1.3	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.7
CRAFTSMEN	2.5	2.5	1.3	1.3	2.2	2.2	2.2	2.3	2.1	2.1	1.7	1.8	1.4	1.5	2.1	2.1
Mechanics	2.6	2.8	1.2	1.2	2.4	2.5	2.5	2.7	2.2	2.2	1.7	1.7	1.4	1.4	2.4	2.4
Maintenance men	2.6	2.6	2.3	2.3	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	1.8	2.4	2.8	2.8
Parts men	2.3	2.4	1.0	1.0	1.3	1.3	1.2	1.2	1.3	1.3	1.2	1.2	1.0	1.0	1.1	1.1
Welders	2.6	2.6	1.3	1.3	2.4	2.6	3.0	3.0	2.0	2.0	2.0	1.6	1.4	1.4	2.4	2.4
Pipe fitters	2.0	2.0	1.3	1.3	2.0	2.0	2.3	2.3	1.7	1.7	2.3	2.3	2.0	2.0	2.3	2.3
Servicemen	2.5	2.1	1.6	1.6	2.3	2.3	2.2	2.2	2.0	2.0	1.6	2.0	1.7	1.7	2.0	2.0
Butcher	2.5	1.7	1.3	1.0	2.2	1.5	2.2	1.1	2.1	1.9	1.7	1.5	1.4	1.3	2.1	1.4
PROFESSIONAL & EXECUTIVE	1.6	1.8	1.3	1.4	1.3	1.3	1.1	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.1	1.1
FOREMEN	2.4	2.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.6	1.6	1.9	1.9
LABORER	1.8	1.8	1.1	1.1	1.3	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.4
Skilled	2.2	2.2	1.1	1.1	1.8	1.8	1.7	1.7	1.8	1.8	1.5	1.5	1.7	1.7	1.8	1.8
Unskilled	1.5	1.5	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.2	1.2
Semi-skilled	1.9	1.9	1.1	1.1	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.3	1.3	1.4	1.4
MGRS., SUPV., & SUPT.	1.9	2.1	1.4	1.4	1.6	1.7	1.6	1.6	1.7	1.7	1.6	1.6	1.7	1.7	1.6	1.6
Production	1.5	1.5	1.1	1.1	1.2	1.2	1.2	1.2	1.4	1.6	1.4	1.5	1.4	1.4	1.2	1.1
Maintenance	2.4	2.6	1.7	1.7	2.3	2.3	2.6	2.6	2.6	2.7	2.3	2.1	1.9	1.9	1.7	1.9
Sales & rt. sales	1.7	1.7	1.3	1.3	1.3	1.3	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2
Plant, mill--gen.	1.8	2.2	1.5	1.6	1.7	1.7	1.7	1.7	1.9	1.9	1.8	1.8	1.9	1.9	1.7	1.7
Office & credit	1.5	1.5	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Parts & hardware	2.7	2.8	1.3	1.3	1.9	1.9	1.8	1.8	1.5	1.5	1.4	1.4	1.4	1.3	1.5	1.5
Purchasing agents	1.3	1.6	1.4	1.4	1.6	1.6	1.2	1.2	1.5	1.5	1.4	1.4	1.6	1.6	1.2	1.2
Elevator & store	2.0	2.0	1.1	1.1	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.6	1.6	1.2	1.2
Cotton gin	2.5	3.0	1.8	1.8	2.5	2.8	2.2	2.8	2.5	3.0	2.0	2.0	2.2	2.2	2.5	2.5
Quality control	3.0	3.0	2.0	2.0	2.0	2.0	1.7	1.7	1.7	1.7	1.7	1.7	2.0	2.0	2.0	2.0
Nursery	2.0	2.2	1.8	2.0	1.5	1.5	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.8	2.0
Commercial farm	2.6	2.4	1.6	1.6	1.8	1.8	1.8	1.8	2.4	2.2	1.9	1.9	2.3	2.3	2.4	2.0
Service	2.6	2.7	1.1	1.1	2.0	2.1	2.6	2.6	1.7	1.7	1.6	1.6	1.7	1.7	1.7	1.8
Division	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0	2.0
Miscellaneous	2.0	2.0	1.2	1.2	1.5	1.5	1.3	1.4	1.5	1.5	1.4	1.4	1.9	1.6	1.7	1.7
OPERATIVES	1.9	1.8	1.1	1.2	1.3	1.3	1.2	1.2	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.3
Poultry processors	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Food processors	1.5	1.5	1.3	1.3	1.2	1.2	1.1	1.1	1.7	1.7	1.4	1.4	1.2	1.2	1.2	1.2
Factory worker assembly line	1.6	1.6	1.2	1.2	1.4	1.4	1.2	1.2	1.6	1.6	1.3	1.3	1.4	1.4	1.5	1.5
Wood processor	2.5	2.5	2.5	2.5	1.5	1.5	2.5	2.5	2.5	2.5	3.0	3.0	2.5	2.5	3.0	3.0
Mach. oper.	2.0	2.0	1.2	1.2	1.2	1.2	1.3	1.3	1.7	1.7	1.5	1.5	1.2	1.2	1.4	1.4
Aerial applicator	2.3	2.3	1.1	1.3	2.0	2.0	1.7	1.7	1.3	1.3	1.6	1.6	1.1	1.1	1.7	1.7
Oper.--farm mach.	2.2	2.5	1.0	1.0	1.5	1.5	1.2	1.2	1.5	1.5	1.5	1.5	1.2	1.2	1.2	1.2
Cotton gin oper.	2.3	1.5	1.1	1.1	1.7	1.7	1.5	1.5	1.6	1.6	1.4	1.4	1.4	1.4	1.4	1.4
Oper.--heavy trucks	2.1	2.1	1.1	1.1	1.2	1.2	1.2	1.2	1.4	1.4	1.3	1.3	1.1	1.1	1.2	1.2
Servicemen	1.7	1.7	1.1	1.1	1.1	1.1	1.1	1.1	1.7	1.7	1.6	1.6	1.7	1.7	1.1	1.1
Weighers, checkers, graders	1.4	1.4	1.0	1.0	1.1	1.1	1.1	1.1	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.1
Ornamental hort. workers	2.2	2.5	2.0	2.2	1.0	1.0	1.0	1.0	1.2	1.2	1.0	1.0	1.5	1.5	1.8	1.8
SALES PERSONNEL	1.9	2.0	1.2	1.2	1.4	1.4	1.2	1.2	1.4	1.4	1.4	1.4	1.4	1.4	1.2	1.2
Gen. salesmen	2.0	2.1	1.1	1.2	1.4	1.4	1.2	1.2	1.4	1.4	1.3	1.3	1.4	1.4	1.2	1.2
Route salesmen	1.8	1.8	1.2	1.2	1.4	1.4	1.1	1.1	1.5	1.5	1.4	1.4	1.4	1.4	1.2	1.2
Sales clerks	1.6	1.6	1.6	1.6	1.4	1.3	1.2	1.2	1.7	1.7	1.7	1.7	1.5	1.5	1.5	1.5
Distributors	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm	1.0	2.5	1.0	1.0	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5

[a]Mean scores based on: Much = 3; Some = 2; None = 1.

Table 11. Degree of competency in plant and animal science needed to enter and to advance in job titles (mean scores)[a]

Job title	Plant science										Animal science									
	Propagation seed prod.		Growth & fert.		Insects, disease, weed cont.		Soils, types consv.		Other prod. practices		Breeding selection		Growth, feeding		Health & sanitation		Housing & equipment		Other prod. practices	
	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv	Ent	Adv
CLERICAL	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Bookkeeper--gen.	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Secs. & typists	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cashier	1.2	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.4	1.4	1.4	1.4	1.2
Office workers	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Stock clerks	1.3	1.2	1.4	1.4	1.4	1.4	1.2	1.2	1.2	1.2	1.3	1.2	1.1	1.4	1.4	1.4	1.4	1.4	1.4	1.3
CRAFTSMEN	1.1	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2
Mechanics	1.0	1.0	1.2	1.1	1.2	1.1	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Maintenance men	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Parts men	1.0	1.0	1.1	1.1	1.2	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Welders	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pipe fitters	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2
Servicemen	1.4	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Butchers	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
PROFESSIONAL & EXECUTIVE	1.4	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.4	1.4	1.3	1.1	1.2	1.1	1.4	1.1	1.3	1.1	1.2	1.2
FOREMEN	1.2	1.2	1.3	1.4	1.2	1.2	1.2	1.2	1.3	1.4	1.3	1.3	1.4	1.2	1.4	1.4	1.2	1.3	1.3	1.2
LABORERS	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2
Skilled	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Unskilled	1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2
Semi-skilled	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2
MGRS, SUPV, & SUPT	1.6	1.7	1.8	1.8	1.8	1.8	1.6	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.7	1.8	1.6	1.6	1.6	1.6
Production	1.5	1.6	1.7	1.8	1.7	1.8	1.7	1.8	1.8	1.9	1.3	1.4	1.3	1.4	1.5	1.6	1.3	1.4	1.4	1.4
Maintenance	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.0	1.0
Sales & rt. sales	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.3	1.4	1.4	1.4	1.2	1.3	1.3
Plant, mill--gen.	1.8	1.8	1.9	2.0	1.9	2.0	1.8	1.8	1.8	1.9	1.7	1.8	1.8	1.9	1.9	2.0	1.8	1.8	1.8	1.8
Office & credit	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.2	1.3	1.3	1.4	1.4	1.2	1.2	1.2	1.2
Parts & hardware	1.2	1.2	1.4	1.4	2.0	2.0	1.2	1.2	1.2	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.2	1.2
Purchasing agents	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8
Elevator & store	1.2	1.2	2.1	2.1	2.1	2.1	1.8	1.5	1.2	1.2	1.2	1.2	2.0	2.0	1.8	1.8	1.8	1.8	1.2	1.2
Cotton gin	1.0	1.0	1.2	1.2	1.2	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Quality control	2.3	2.6	2.3	2.6	2.3	2.6	2.3	2.6	2.3	2.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Nursery	2.5	2.8	2.5	2.8	2.5	2.7	2.5	2.8	2.5	2.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Commercial farm	2.0	2.0	2.0	1.8	2.3	2.3	2.0	2.0	2.0	2.0	2.0	2.1	2.4	2.6	2.4	2.6	2.4	2.6	2.0	2.1
Service	1.4	1.4	1.6	1.6	1.6	1.6	1.2	1.2	1.6	1.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Division	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Miscellaneous	1.6	1.6	1.8	1.8	1.7	1.8	1.6	1.7	1.5	1.6	1.4	1.4	1.4	1.4	1.6	1.6	1.5	1.5	1.4	1.4
OPERATIVES	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2
Poultry processors	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.8	1.8	1.6	1.6	1.6	1.6
Food processor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4
Factory worker assembly line	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Wood processor	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Mach. operator	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Aerial applicator	1.2	1.2	2.1	2.1	2.2	2.2	1.2	1.2	1.3	1.3	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.0
Operator--farm mach.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Cotton gin oper.	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Operator--heavy truck	1.0	1.0	1.2	1.2	1.2	1.2	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1
Servicemen	1.1	1.1	1.1	1.1	1.4	1.4	1.1	1.1	1.1	1.1	1.4	1.4	1.7	1.8	1.8	1.8	1.8	1.8	1.6	1.6
Weighers, checkers graders	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.2	1.2	1.0	1.0	1.0	1.0	1.2	1.2	1.3	1.3	1.1	1.1
Ornamental hort. workers	2.5	2.8	2.5	3.0	2.5	3.0	2.2	2.5	2.2	2.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SALES PERSONNEL	1.6	1.8	1.8	1.9	1.8	1.8	1.7	1.8	1.8	1.8	1.3	1.4	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.4
Gen. salesmen	1.8	1.9	2.0	2.0	2.0	2.0	1.8	2.0	1.9	2.0	1.4	1.4	1.7	1.8	1.7	1.7	1.6	1.7	1.6	1.6
Route salesmen	1.3	1.3	1.4	1.4	1.4	1.4	1.3	1.3	1.4	1.4	1.2	1.2	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
Sales clerks	1.6	1.7	1.8	1.8	1.8	1.8	1.6	1.6	1.8	1.8	1.4	1.4	1.5	1.5	1.6	1.6	1.5	1.5	1.3	1.3
Distributors	1.0	1.0	1.5	1.5	1.0	1.0	1.5	1.5	1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0
Farm	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

[a]Mean scores based on: Much = 3; Some = 2; None = 1.

Table12 . Degree of supporting competencies needed to enter job titles. (mean scores)[a]

Job titles	Display & pkg.	Office management	Communications	Accounting	Public relations	Sales-manship	Supervision & mgt.	Mech. drafting & design	Auto mech.	Leadership & pub. spkg	Govt. reg.
CLERICAL	1.8	2.5	2.6	2.6	2.6	1.9	1.8	1.1	1.2	2.0	2.3
Bookkeeping	2.1	2.8	2.7	2.9	2.7	2.0	2.0	1.1	1.2	2.1	2.7
Secs. & typists	1.2	2.6	2.7	2.5	2.7	1.6	1.3	1.0	1.0	1.5	2.1
Cashier	1.3	2.3	2.4	2.3	2.3	1.6	2.0	1.0	1.1	1.8	1.8
Office workers	1.8	2.4	2.6	2.7	2.4	2.0	1.8	1.2	1.2	2.0	2.3
Stock clerks	1.7	1.8	2.1	1.8	2.7	1.9	2.1	1.3	1.5	2.5	1.4
CRAFTSMEN	1.4	1.1	1.7	1.2	2.0	1.7	1.4	1.3	1.8	1.5	1.1
Mechanics	1.4	1.2	1.9	1.3	2.5	1.9	1.6	1.5	2.7	1.8	1.2
Maintenance men	1.3	1.1	1.4	1.2	2.0	1.3	1.6	2.1	2.1	1.6	1.1
Parts men	2.6	1.8	2.5	2.0	2.9	3.0	1.8	1.2	2.0	2.0	1.5
Welders	1.3	1.1	1.4	1.0	1.7	1.4	1.9	2.3	2.0	1.7	1.3
Pipe fitters	1.7	1.3	1.3	1.0	2.3	1.7	2.0	2.3	1.3	1.3	1.7
Servicemen	1.4	1.4	2.0	1.4	2.6	2.1	2.0	1.7	2.2	2.0	1.4
Butchers	2.2	1.5	2.4	2.0	2.2	2.1	1.7	1.3	1.4	1.9	1.9
PROFESSIONAL & EXECUTIVE	1.7	2.3	2.5	2.2	2.3	2.3	2.4	1.4	1.3	2.6	2.2
FOREMEN	1.8	1.5	2.2	1.7	2.5	1.9	2.6	1.5	1.9	2.5	1.5
LABORERS	1.3	1.1	1.6	1.2	2.0	1.3	1.2	1.1	1.5	1.3	1.1
Skilled	1.5	1.3	1.5	1.2	2.3	1.7	1.7	1.3	1.9	1.8	1.2
Unskilled	1.2	1.1	1.6	1.1	2.0	1.1	1.1	1.0	1.3	1.2	1.1
Semi-skilled	1.4	1.2	1.7	2.2	1.8	1.4	1.3	1.1	1.6	1.3	1.1
MGRS., SUPV., & SUPT.	2.3	2.4	2.6	2.3	2.9	2.6	2.8	1.5	1.8	2.6	2.2
Production	1.6	1.8	2.3	1.9	2.3	1.9	2.5	1.1	1.4	1.9	1.6
Maintenance	2.0	2.0	2.4	1.6	2.6	1.3	2.6	2.1	2.3	2.3	2.0
Sales & rt. sales	2.7	2.4	2.7	2.2	2.9	2.9	2.9	1.3	1.6	2.9	2.0
Plant, mill-Gen.	2.4	2.5	2.6	2.4	2.9	2.7	2.9	1.6	1.9	2.6	2.3
Office & credit	2.0	2.9	2.7	2.8	2.9	2.5	2.7	1.4	1.4	2.5	2.8
Parts & hardware	2.8	2.4	2.7	2.4	2.9	2.7	2.5	1.8	2.2	2.4	2.0
Purchasing agents	2.2	2.4	2.6	2.4	2.8	2.8	2.3	1.5	1.4	2.5	2.3
Elevator & store	2.5	2.1	2.4	2.1	2.9	2.5	2.4	1.1	1.8	2.8	1.8
Cotton gin	2.5	2.0	2.8	2.0	2.8	2.0	2.8	1.8	2.0	2.3	2.0
Quality control	1.3	2.0	2.3	2.3	2.7	2.3	2.7	1.7	2.0	2.7	2.3
Nursery	2.0	1.5	2.8	1.8	2.8	2.8	2.8	1.3	1.5	2.5	1.3
Commercial farm	2.2	1.9	2.1	2.0	2.7	2.2	2.6	1.4	1.9	2.1	2.0
Service	1.9	2.2	2.3	1.7	2.9	2.7	2.6	1.5	2.6	2.5	2.2
Division	2.5	3.0	3.0	3.0	3.0	3.0	3.0	2.0	1.5	3.0	3.0
Miscellaneous	1.9	2.2	2.7	2.2	2.9	2.5	2.8	1.5	1.4	2.7	2.1
OPERATIVES	1.3	1.4	1.8	1.4	2.1	1.5	1.4	1.1	1.7	1.6	1.4
Poultry processors	1.0	1.0	1.0	1.1	1.0	1.0	1.2	1.0	1.0	1.0	1.2
Food processors	1.8	1.3	1.6	1.4	1.7	1.4	1.5	1.2	1.2	1.8	1.7
Factory worker assembly line	1.5	1.3	1.3	1.5	1.7	1.4	1.5	1.3	1.3	1.7	1.5
Wood processor	1.0	2.0	2.0	2.5	2.0	1.5	2.5	2.0	2.5	1.5	1.0
Machine operator	1.4	1.2	1.5	1.1	1.7	1.2	1.4	1.3	2.0	1.2	1.2
Aerial applicator	1.2	1.4	2.3	1.4	2.8	2.2	1.7	1.1	1.8	2.0	2.2
Operator-farm mach.	1.0	1.0	1.3	1.0	1.8	1.5	1.0	1.0	2.3	1.3	1.3
Cotton gin operator	1.3	1.3	1.8	1.3	1.9	1.3	1.3	1.1	1.4	1.3	1.2
Operator-heavy truck	1.3	1.2	1.8	1.4	2.3	1.7	1.3	1.0	2.3	1.5	1.5
Servicemen	1.3	1.7	2.4	1.8	2.7	1.9	1.8	1.2	1.5	1.9	1.5
Weighers, checkers, graders	1.2	1.9	2.2	1.7	2.5	1.1	1.5	1.0	1.2	2.3	1.6
Ornamental hort. workers	2.0	2.0	3.0	2.0	2.8	2.5	1.8	2.0	1.5	2.3	2.3
SALES PERSONNEL	2.4	2.1	2.8	2.2	3.0	2.9	2.0	1.2	1.7	2.6	2.0
Gen. salesmen	2.3	2.1	2.9	2.3	3.0	3.0	1.9	1.3	1.6	2.6	2.2
Route salesmen	2.7	2.4	2.7	2.3	3.0	2.9	2.2	1.1	2.3	2.8	1.6
Sales clerks	2.6	1.9	2.6	1.7	2.9	2.7	1.7	1.0	1.5	2.3	1.8
Distributors	3.0	2.5	1.8	1.5	3.0	2.8	2.5	1.0	1.0	2.0	2.3
Farm	1.5	1.5	3.0	1.5	3.0	3.0	2.0	1.0	1.0	2.0	2.0
TOTALS	1.9	1.9	2.3	1.9	2.3	2.1	2.1	1.2	1.7	2.1	1.8

[a]Mean scores based on: Much = 3; Some = 2; None = 1.

Table 13. Peripheral characteristics and requirements of job titles: Maximum age limits, average beginning and maximum monthly salaries

	Maximum age limits									Ave. beginning monthly salary						Ave. top monthly salary							
	None	18-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	Under 200	200-250	250-300	300-350	350-400	400+	Under 300	300-350	350-400	400-450	450-500	500-550	550-600	600+
CLERICAL N=163	12	24	38	26	27	17	7	7	5	34	60	36	19	11	3	42	44	38	15	11	5	4	4
Bookkeeper--gen. N=66	3	9	16	12	9	8	4	2	3	13	30	12	4	6	1	16	19	15	6	5	2	3	-
Secs. & typists N=38	4	6	8	6	11	1	1	-	1	11	11	9	5	2	-	15	12	6	3	1	1	-	-
Cashier N=8	-	1	1	3	3	-	-	-	-	2	1	2	-	1	2	2	-	2	1	-	-	-	3
Office workers--gen. N=31	4	5	8	3	1	3	2	4	1	6	13	8	3	1	-	7	10	10	3	1	-	-	-
Stock clerks N=20	1	3	5	2	3	5	-	1	-	2	5	5	7	1	-	2	3	5	2	4	2	1	1
CRAFTSMEN N=143	12	21	34	26	14	14	12	6	4	22	37	39	26	9	10	10	24	27	27	17	19	9	10
Mechanics N=69	7	10	19	12	6	6	4	2	3	9	19	19	12	7	3	4	13	17	15	6	10	3	1
Maintenance men N=11	2	1	3	1	1	-	1	2	-	2	2	4	3	-	-	2	-	3	2	-	2	1	1
Parts men N=24	-	9	3	4	1	2	4	1	-	3	5	9	6	1	-	1	4	3	4	6	2	3	1
Welders N=7	3	-	1	1	-	2	-	-	-	2	2	2	1	-	-	1	-	-	5	1	-	-	-
Pipe fitters N=3	-	1	-	1	-	-	1	-	-	-	-	-	2	-	1	-	-	-	-	-	1	-	2
Servicemen N=19	-	-	5	4	6	1	2	1	-	3	6	2	2	-	6	-	6	2	-	3	3	1	4
Butchers N=10	-	-	3	3	-	3	-	-	1	3	3	3	-	1	-	2	1	2	1	1	1	1	1
PROFESSIONAL & EXECUTIVE N=31	2	2	6	4	5	1	8	3	-	1	-	2	-	10	18	-	-	1	3	1	5	2	19
FOREMEN N=63	8	3	10	14	13	8	2	3	2	6	2	12	15	12	16	4	5	10	12	6	8	8	10
LABORERS N=177	16	26	34	25	25	25	14	4	8	80	73	15	3	2	4	108	39	14	9	2	3	2	-
Skilled N=17	4	1	5	1	3	1	2	-	-	3	9	1	2	2	-	6	1	7	1	-	1	1	-
Unskilled N=73	6	11	12	6	9	12	10	3	4	41	26	4	-	-	2	55	12	2	3	-	1	-	-
Semi-skilled N=87	6	14	17	18	13	12	2	1	4	36	38	10	1	-	2	47	26	5	5	2	1	1	-
MGRS., SUPV., & SUPT. N=414	42	17	65	99	89	44	32	15	11	29	48	41	58	70	168	22	25	28	52	21	46	46	174
Production N=14	3	1	2	3	3	2	-	-	-	1	1	-	1	3	8	2	-	-	-	-	3	6	3
Maintenance N=7	2	-	-	2	-	-	2	1	-	-	-	2	1	1	3	-	1	-	1	-	2	-	3
Sales & rt.sales N=34	2	2	7	11	7	1	3	1	-	1	1	-	2	9	21	-	-	-	-	1	4	8	21
Plant, mill--gen. N=221	20	7	27	53	61	30	11	7	5	14	26	24	39	28	90	12	16	20	29	15	16	17	96
Office & credit N=26	1	1	7	10	3	2	1	1	-	3	1	3	1	8	10	2	1	2	3	-	2	3	13
Parts & hardware N=17	3	2	6	2	1	-	2	-	1	2	3	4	4	3	1	1	2	1	4	1	5	-	3
Purchasing agents N=12	1	1	3	3	1	1	1	1	-	-	1	2	1	3	5	-	1	-	-	2	3	1	5
Elevator & store N=8	-	-	2	1	2	2	-	-	1	-	3	1	1	2	1	-	-	1	2	-	2	-	3
Cotton gin N=4	1	-	1	-	-	-	-	1	1	-	1	1	-	1	1	-	-	1	-	1	-	2	-
Quality control N=3	-	-	2	-	1	-	-	-	-	-	1	-	1	1	1	-	-	1	-	-	-	2	-
Nursery N=4	-	-	1	-	2	-	-	-	1	1	-	-	1	1	1	1	-	-	-	-	2	-	1
Commercial farm N=9	2	-	2	2	1	-	2	-	-	-	3	1	2	3	-	-	-	-	4	-	-	2	3
Service N=11	3	1	-	2	-	1	2	-	2	2	1	-	1	4	3	-	-	-	3	-	3	2	3
Division N=2	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
Miscellaneous N=42	4	2	5	10	5	5	8	3	-	5	6	3	3	3	22	4	4	2	6	1	4	3	18
OPERATIVES N=173	24	13	35	27	22	24	17	9	2	36	68	31	18	11	9	54	41	27	18	7	5	8	13
Poultry processors N=9	6	1	-	1	-	-	1	-	-	1	7	-	-	1	-	4	3	-	-	1	1	-	-
Food processor N=13	2	2	5	1	2	1	-	-	-	3	2	2	3	3	-	2	2	3	4	-	1	1	-
Factory worker assembly line N=12	4	3	4	-	-	1	-	-	-	5	4	1	1	1	-	6	2	-	2	1	1	-	-
Wood processor N=2	-	-	-	1	-	1	-	-	-	-	-	1	1	-	-	-	-	-	-	1	-	1	-
Mach. operator N=20	-	1	5	6	3	2	1	2	-	1	6	6	5	1	1	1	8	6	2	2	1	-	-
Aerial applicator N=9	1	-	-	2	1	3	1	-	1	4	-	1	-	-	4	-	-	-	1	-	-	-	8
Operator--farm mach. N=4	1	-	-	1	1	1	-	-	-	3	1	-	-	-	-	3	-	1	-	-	-	-	-
Cotton gin operator N=23	1	-	2	5	3	3	4	5	-	7	11	4	1	-	-	12	4	3	3	-	-	1	-
Operator--heavy truck N=45	5	3	10	8	5	7	7	-	-	7	26	7	4	1	-	15	15	9	3	1	1	-	1
Servicemen N=17	1	-	6	1	5	3	-	-	1	-	6	5	1	3	2	3	4	1	3	1	-	4	1
Weighers, checkers, graders N=15	3	2	2	-	1	2	3	2	-	5	4	3	1	-	2	7	3	3	-	-	-	1	1
Ornamental hort. workers N=4	-	1	1	1	1	-	-	-	-	-	1	1	1	1	-	1	-	1	-	-	-	-	2
SALES PERSONNEL N=100	7	7	27	17	13	15	9	2	3	8	13	13	20	19	27	6	6	7	9	8	11	9	44
Gen. salesmen N=66	7	4	15	11	10	10	6	1	2	5	8	6	14	13	20	4	2	3	8	7	6	4	32
Route salesmen N=18	-	1	6	5	2	3	1	-	-	1	1	5	5	4	2	-	2	-	1	1	3	3	8
Sales clerks N=10	-	1	5	-	-	2	-	1	1	2	4	2	1	1	-	2	2	4	-	-	2	-	-
Distributors N=4	-	1	-	1	-	-	2	-	-	-	-	-	-	1	3	-	-	-	-	-	-	2	2
Farm N=2	-	-	1	-	1	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
TOTALS N=1264	323	113	249	238	208	148	101	49	35	216	301	189	159	144	255	246	184	152	145	73	102	88	274

Table 14. Peripheral characteristics and requirements of job titles: Educational grade level required for entry, educational requirements to advance, and licensing/certification requirements

	Ed. grade level preferred to enter job								Ed. or training required to advance						License or cert. to enter	
	Less than h.s.	High sch.	Tech.	Coll. less B.S.	B.S.	M.S.	Ph.D.	No reg.	Bus. as a whole	On-job training	Pub. sch.	Agr. coll.	Other	Comb.	Yes	No
CLERICAL N=163	1	76	63	17	5	-	-	1	25	75	9	-	2	52	37	126
Bookkeeper--gen. N=66	-	22	31	12	1	-	-	-	11	28	3	-	2	22	16	50
Secs. & Typists N=38	-	15	17	4	1	-	-	1	7	21	3	-	-	7	3	35
Cashier N=8	-	5	2	-	1	-	-	-	2	2	1	-	-	3	1	7
Office workers--gen. N=31	1	17	11	1	1	-	-	-	4	12	1	-	-	14	10	21
Stock clerks N=20	-	17	2	-	1	-	-	-	1	12	1	-	-	6	7	13
CRAFTSMEN N=143	6	91	29	7	-	-	-	10	24	54	8	1	8	48	18	125
Mechanics N=69	1	45	17	-	-	-	-	6	14	22	4	1	7	21	7	62
Maintenance men N=11	2	4	3	-	-	-	-	2	-	6	1	-	-	4	1	10
Parts men N=24	-	18	3	2	-	-	-	1	6	10	2	-	-	6	3	21
Welders N=7	1	4	-	1	-	-	-	1	1	3	-	-	-	3	1	6
Pipe fitters N=3	1	2	-	-	-	-	-	-	-	2	-	-	-	1	-	3
Servicemen N=19	1	9	6	3	-	-	-	-	3	7	1	-	1	7	3	16
Butcher N=10	-	9	-	1	-	-	-	-	-	4	-	-	-	6	3	7
PROFESSIONAL & EXECUTIVE N=31	-	1	4	4	20	2	-	-	1	8	-	2	-	20	3	28
FOREMEN N=63	-	45	12	3	2	-	-	1	8	28	-	1	-	26	8	55
LABORER N=177	31	127	1	-	2	1	-	15	24	104	1	2	1	45	7	170
Skilled N=17	-	15	1	-	-	-	-	1	1	12	-	-	-	4	3	14
Unskilled N=73	21	42	-	-	-	-	-	10	12	43	-	-	-	18	1	72
Semi-skilled N=87	10	70	-	-	2	1	-	4	11	49	1	2	1	23	3	84
MGRS., SUPV., & SUPT. N=414	16	149	44	90	104	4	1	6	63	140	6	22	8	175	119	295
Production N=14	-	2	-	4	8	-	-	-	3	-	1	1	-	9	-	14
Maintenance N=7	-	1	3	-	3	-	-	-	-	1	-	-	1	5	1	6
Sales & rt.sales N=34	14	5	7	8	-	-	-	-	7	10	-	-	-	17	5	29
Plant, mill--gen. N=221	2	84	14	49	66	4	-	2	31	71	4	16	4	95	89	132
Office & credit N=26	-	5	4	11	5	-	-	1	5	11	-	-	-	10	7	19
Parts & hardware N=17	-	13	2	2	-	-	-	-	4	4	-	-	1	8	2	15
Purchasing agents N=12	-	5	1	2	4	-	-	-	1	7	-	-	-	4	2	10
Elevator & store N=8	-	4	2	1	1	-	-	-	-	7	-	-	-	1	1	7
Cotton gin N=4	-	3	-	1	-	-	-	-	2	1	-	-	1	-	-	4
Quality control N=3	-	-	1	1	1	-	-	-	1	-	-	-	-	2	1	2
Nursery N=4	-	2	-	-	1	-	-	1	-	3	-	1	-	-	-	4
Commercial farm N=9	-	6	-	1	2	-	-	-	1	5	-	1	1	1	-	9
Service N=11	-	5	3	1	1	-	-	1	2	4	-	-	-	5	4	7
Division N=2	-	-	-	1	1	-	-	-	-	-	-	-	-	2	-	2
Miscellaneous N=42	-	14	7	8	11	-	1	1	6	16	1	3	-	16	7	35
OPERATIVES N=173	23	111	16	4	5	-	-	14	12	101	1	2	1	56	38	135
Poultry processors N=19	6	3	-	-	-	-	-	-	4	3	-	-	-	2	-	9
Food processor N=13	-	11	1	-	1	-	-	-	1	6	-	1	-	5	7	6
Factory worker assembly line N=12	3	8	-	-	1	-	-	-	-	6	-	-	-	6	3	9
Wood processor N=2	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	2
Mach. oper. N=20	-	15	3	-	-	-	-	2	-	9	-	-	-	11	7	13
Aerial applicator N=9	2	2	4	-	-	-	-	1	1	6	-	1	1	-	4	5
Oper.--farm mach. N=4	-	2	-	-	-	-	-	2	-	3	1	-	-	-	-	4
Cotton gin oper. N=23	2	15	1	-	-	-	-	5	-	16	-	-	-	7	3	20
Oper.--heavy trucks N=45	8	35	-	-	-	-	-	2	4	27	-	-	-	14	10	35
Servicemen N=17.	1	7	1	4	2	-	-	2	1	11	-	-	-	5	1	16
Weighters, checkers, graders N=15	1	11	3	-	-	-	-	-	1	11	-	-	-	3	2	13
Ornamental hort. workers N=4	-	2	1	-	1	-	-	-	-	3	-	-	-	1	1	3
SALES PERSONNEL N=100	2	54	13	12	15	1	-	3	19	38	-	3	4	36	17	83
Gen. salesmen N=66	2	28	10	10	14	-	-	2	13	20	-	3	4	26	10	56
Route salesmen N=18	-	15	2	-	-	-	-	1	3	10	-	-	-	5	5	13
Sales clerks N=10	-	8	1	1	-	-	-	-	1	7	-	-	-	2	2	8
Distributors N=4	-	2	-	-	1	1	-	-	-	1	-	-	-	3	-	4
Farm N=2	-	1	-	1	-	-	-	-	2	-	-	-	-	-	-	2
TOTALS N= 1264	79	654	182	137	153	8	1	50	176	548	25	33	24	458	247	1017

Table 15. Peripheral characteristics and requirements of job titles: Labor restrictions, difficulty of filling jobs, residential background preferred, and work experience needed to enter job

	Restrictions to enter						Difficulty to fill job				Type of residence				Work exp. needed to enter		
	Labor union		Labor law		Other					Unable to find qual.		Rural, non-		No			
	Yes	No	Yes	No	Yes	No	None	Some	Great	persons	Farm	farm	Urban	pref.	None	Desired	Required
CLERICAL N=163	7	156	67	96	14	149	52	69	42	0	58	5	0	100	29	72	62
Bookkeeper--gen.N=66	5	61	35	31	2	64	19	25	22	0	25	1	0	40	11	26	29
Secs. & typists N=38	0	38	4	34	4	34	10	21	7	0	9	1	0	28	3	23	12
Cashier N=8	0	8	2	6	7	1	1	4	3	0	5	0	0	3	2	4	2
Office workers--gen. N=31	2	29	14	17	1	30	14	12	5	0	11	1	0	19	8	13	10
Stock clerk N=20	0	20	12	8	0	20	8	7	5	0	8	2	0	10	5	6	9
CRAFTSMEN N=143	5	138	65	78	0	143	17	23	98	5	77	5	1	60	17	44	82
Mechanics N=69	2	67	33	36	0	69	7	7	53	2	36	2	0	31	5	24	40
Maintenance men N=11	0	11	7	4	0	11	3	3	5	0	3	0	1	7	2	2	7
Parts men N=24	3	21	8	16	0	24	4	4	16	0	17	3	0	4	4	9	11
Welders N=7	0	7	2	5	0	7	3	2	2	0	2	0	0	5	0	2	5
Pipe fitters N=3	0	3	2	1	0	3	0	1	2	0	1	0	0	2	1	1	1
Servicemen N=19	0	19	8	11	0	19	0	4	13	2	10	0	0	9	3	5	11
Butcher N=10	0	10	5	5	0	10	0	2	7	1	8	0	0	2	2	1	7
PROFESSIONAL & EXECUTIVE N=31	0	31	12	19	1	30	14	8	9	0	12	1	0	18	2	9	20
FOREMEN N=63	2	61	29	34	1	62	14	22	26	1	31	4	0	28	4	19	40
LABORERS N=177	4	173	64	113	2	175	73	78	24	2	90	4	0	83	63	95	19
Skilled N=17	0	17	16	1	1	16	2	4	10	1	6	1	0	10	5	11	1
Unskilled N=73	2	71	20	53	0	73	41	27	4	1	36	1	0	36	31	36	6
Semi-skilled N=87	2	85	28	59	1	86	30	47	10	0	48	2	0	37	27	48	12
MGRS., SUPV.,& SUPT. N=414	17	397	207	207	18	396	68	88	252	6	285	16	8	105	30	111	273
Production N=14	0	14	4	10	0	14	4	6	4	0	9	2	0	3	1	4	9
Maintenance N=7	0	7	1	6	0	7	2	5	0	0	1	0	0	6	0	0	7
Sales & rt. sales N=34	0	34	16	18	1	33	5	13	16	0	18	1	2	13	3	7	24
Plant, mill--gen.N=221	15	206	119	102	11	210	27	34	156	4	173	9	5	34	14	59	148
Office & credit N=26	0	26	13	13	2	24	6	6	14	0	6	1	0	19	2	9	15
Parts & hardware N=17	1	16	7	10	1	16	1	5	10	1	13	0	0	4	0	11	6
Purchasing agents N=12	1	11	6	6	0	12	3	2	7	0	8	0	0	4	0	1	11
Elevator & store N=8	-	8	7	1	-	8	1	3	4	-	5	1	-	2	1	2	5
Cotton gin N=4	-	4	2	2	-	4	-	-	4	-	3	-	-	1	-	1	3
Quality control N=3	-	3	1	2	-	3	-	1	2	-	2	-	-	1	-	1	2
Nursery N=4	-	4	1	3	-	4	-	1	3	-	4	-	-	-	-	1	3
Commercial farm N=9	-	9	6	3	-	9	2	2	5	-	9	-	-	-	-	1	8
Service N=11	-	11	3	8	1	10	3	2	6	-	7	-	-	4	1	5	5
Division N=2	-	2	2	-	-	2	1	1	-	-	2	-	-	-	-	-	2
Miscellaneous N=42	-	42	19	23	2	40	13	7	21	1	25	2	1	14	8	9	25
OPERATIVES N=173	1	172	71	102	4	169	47	70	56	-	102	2	2	67	39	79	55
Poultry processors N=9	-	9	1	8	-	9	2	4	3	-	2	-	-	7	4	2	3
Food processor N=13	-	13	8	5	-	13	5	6	2	-	8	-	-	5	3	5	5
Factory worker assembly line N=12	-	12	6	6	-	12	6	5	1	-	8	-	-	4	4	5	3
Wood processor N=2	-	2	-	2	-	2	-	-	2	-	-	-	-	2	-	-	2
Mach. oper. N=20	-	20	7	13	1	19	3	12	5	-	10	-	-	10	6	8	6
Aerial applicator N=9	-	9	5	4	1	8	4	2	3	-	4	-	-	5	-	-	9
Oper. Farm Mach. N=4	-	4	3	1	-	4	2	-	2	-	3	-	-	1	-	3	1
Cotton gin oper. N=23	-	23	9	14	-	23	4	12	7	-	18	-	-	5	5	10	8
Oper.--heavy trucks N=45	1	44	19	26	1	44	8	24	13	-	29	1	-	15	7	27	11
Servicemen N=17	-	17	5	12	-	17	8	-	9	-	9	-	2	6	2	13	2
Weighers, Checkers, graders N=15	-	15	6	9	1	14	5	4	6	-	7	1	-	7	7	3	5
Ornamental hort. workers N=4	-	4	2	2	-	4	-	1	3	-	4	-	-	-	1	3	-
SALES PERSONNEL N=100	2	98	54	46	-	100	15	22	63	-	72	5	1	22	14	43	43
Gen. Salesmen N=66	2	64	33	33	-	66	9	13	44	-	52	3	-	11	9	24	33
Route salesmen N=18	-	18	13	5	-	18	3	3	12	-	10	1	1	6	1	12	5
Sales clerks N=10	-	10	7	3	-	10	3	4	3	-	7	1	-	2	4	4	2
Distributors N=4	-	4	1	3	-	4	-	2	2	-	1	-	-	3	-	1	3
Farm N=2	-	2	-	2	-	2	-	-	2	-	2	-	-	-	-	2	-
TOTALS N=1264	38	1226	569	695	40	1224	300	380	570	14	727	42	12	483	198	472	594